

REMARKS

Claims 33-37, 47-53, and 60-67 were pending in the application. Claims 33-37, 47-53, and 60-67 stand rejected. Claims 62-63 and 65-66 were cancelled. Claims 33-37, 47-49, 51-53, 60-61, 64, and 67 were amended. Claims 33-37, 47-53, 60-61, 64, and 67 remain in the application.

35 U.S.C. 101

Claims 33-37, 47-53, and 60-67 stand rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. The rejection stated:

"Claims 33-37, 47-53, and 60-67 are not directed to a useful, concrete, and tangible result. Similarly these claims are directed to manipulating abstract processes."

and

"Claims 47-50 are means plus function claims. Since the specification defines claiming a software program per se rather than a computer system performing the claimed functions. The claimed system of software components executed by one or more computers does not claim a computer system performing the claimed functions but rather still claims a software program per se."

Claim 33 has been amended to require:

"A system for color mapping, the system comprising:
a source device capable of producing an image from image data using a source device profile;
a destination device capable of reproducing said image from the image data using a destination device profile; and
a computer system operatively connecting said source device and destination device, said computer system including ..."

which specifies a useful, concrete, and tangible result.

Support for the amendment of Claim 33 is provided by the application as filed, notably as follows:

"A system for color mapping":

"FIG. 1 illustrates an example system 100 according to the present invention configured to transform colors between imaging systems."
(page 9, lines 7-9)

"a source device capable of producing an image from image data using a source device profile; a destination device capable of reproducing said image from the image data using a destination device profile".

"The color map 114 describes a relationship between the color imaging systems used by the source and destination devices." (page 10, lines 7-9)

"Color reproduction processes typically involve using color imaging systems to produce colors on various media. These color imaging systems may be used to duplicate a color image from one medium to another medium, e.g., from one printed copy to another or from a display screen to a printed copy." (page 1, lines 11-16)

(See also Figures 1-4; page 6, line 15 to page 7, line 6; and page 36, lines 8-12)

"a computer system operatively connecting said source device and destination device, said computer system including"

The system 100 includes an appropriately-programmed computer arrangement 102. The computer arrangement 102 may be implemented using any of a variety of conventional resources, for example, a personal computer and CD-ROM based software. Other computer-based designs may be used as well." (page 9, lines 9-14)

(See also Figures 1-4; page 6, line 15 to page 7, line 6)

Claims 60-61 and 64 are allowable as depending from Claim 33.

Claims 62-63 were cancelled.

Claims 34-35 have been amended in the same manner as Claim 33 and are allowable on the same basis.

Claims 36-37 and 67 are allowable as depending from Claim 35.

Claims 65-66 were cancelled.

Claim 47 has been amended in the same manner as Claim 33 and is allowable on the same basis.

Claims 48-50 are allowable as depending from Claim 47.

Claim 51 has been amended to require:

"producing an image from image data using a source device profile; and

"reproducing said image from the image data using a destination device profile;"

Claim 51 is supported and allowable on the same basis as Claim 33.

Claims 52-53 depend from Claim 51 and are allowable on that basis.

35 U.S.C. 112

Claims 34-37, 48-53, and 60-67 stand rejected under 35 U.S.C. 112, first paragraph. In relation to Claim 34, the rejection states:

'Claim 34:

'Independent claim 34 claims "the source device profile contains raw spectral data that characterizes a source device, and the destination device profile contains raw spectral data that characterizes a destination device". Page 16 lines 18-22 states "Additionally, the device profile 302 optionally stores the raw spectral data used to construct the device profile 302. The raw spectral data allows subsequent construction of more accurate device profiles 302, e.g., if ICC specifications change." Thus, the claim limitation "characterizes" is not clear from the definition given for the raw spectral data in the specification and the specification does not convey "characterizes". Since the specification describes device profile 302 but not the claimed source device and destination device, the specification does not convey the claim limitations of this claim.'

Claim 34 states:

34. A system for color mapping, the system comprising:
a source device capable of producing an image from image data using a source device profile;
a destination device capable of reproducing said image from the image data using a destination device profile; and
a computer system operatively connecting said source device and destination device, said computer system including:
a source device profile interpreter that interprets the source device profile to convert coordinates in a source device color space to a device-independent color space;
a destination device profile interpreter that interprets the destination device profile to convert coordinates in a destination device color space to the device-independent color space; and
a color transformer that generates a color map defining a relationship between the source and destination device color spaces based on the converted coordinates and user preferences specified by a user independently of the source and destination device profiles, wherein the user preferences include color conversion preferences, wherein the source device profile characterizes a source device and contains raw spectral data used to construct said source device

profile, and the destination device profile characterizes a destination device and contains raw spectral data used to construct said destination device profile.

Claim 34 is supported by the application as filed, notably the as discussed above and as follows.

Claim 34 requires:

"wherein the source device profile characterizes a source device and contains raw spectral data used to construct said source device profile, and the destination device profile characterizes a destination device and contains raw spectral data used to construct said destination device profile."

The application states:

"According to another embodiment of the present invention, color mapping between source and destination color imaging systems is accomplished by using profiles that characterize the color imaging systems to generate device-independent color values for the source color imaging system and to convert to device-dependent values of the destination color imaging system by performing a color conversion using the profiles." (Application, page 5, lines 1-8; emphasis added)

"Color reproduction processes typically involve using color imaging systems to produce colors on various media. These color imaging systems may be used to duplicate a color image from one medium to another medium, e.g., from one printed copy to another or from a display screen to a printed copy. Color reproduction processes are used in various application environments, for example, color proofing applications.

"Some color reproduction processes use approaches known as color management systems (CMSs) to characterize various color imaging systems and to transform color data between the color imaging systems." (Application, page 1, lines 11-22; emphasis added; see also page 1, line 22 to page 4, line 3)

"Additionally, the device profile 302 optionally stores the raw spectral data used to construct the device profile 302." (Application, page 16, lines 18-19)

In relation to Claim 35, the rejection states:

"Claim 35:

"Independent claim 35 claims "color transformer that generates a color map ... based on the converted coordinates and user preferences specified by a user independently of the source and destination device profiles ... wherein the user preference include color conversion preferences, wherein the source device profile defines ... color space, and wherein the destination device profile define ... color space". The specification describes at page 15 lines 19-22 describes the user preferences as "The color management system 200 receives user preferences from an input 218 to determine how to configure the color transformer 214." while the claim claims "user preferences specified by a user independently of the source and destination device profiles" are used in generating the color map. It appears the specification only conveys the user preferences configures the color transformer 214. Thus, the specification does not convey the claim limitations of this claim."

Claim 35 states:

35. A system for color mapping, the system comprising:
 - a source device capable of producing an image from image data using a source device profile;
 - a destination device capable of reproducing said image from the image data using a destination device profile; and
 - a computer system operatively connecting said source device and destination device, said computer system including:
 - a source device profile interpreter that interprets the source device profile to convert coordinates in a source device color space to a device-independent color space;
 - a destination device profile interpreter that interprets the destination device profile to convert coordinates in a destination device color space to the device-independent color space; and
 - a color transformer that generates a color map defining a relationship between the source and destination device color spaces based on the converted coordinates and user preferences, said user preferences being specified by a user independently of the source and destination device profiles;
 - wherein the user preferences include color conversion preferences;
 - wherein the source device profile defines a forward transformation from the source device color space to the device-independent color space; and
 - wherein the destination device profile defines a forward transformation from the destination device color space to the device-independent color space.

Amended language, in Claim 35, corresponding to language in Claim 33 is supported in the same manner. Other changes are grammatical.

The rejection is incorrect in indicating that the specification does not support the statement in Claim 33 that "user preferences specified by a user independently of the source and destination device profiles" are used in generating the color map. The application states:

"The user can specify the desired source, destination, and intermediate profiles and the user preferences used to generate the device profile link."
(Application, page 35, lines 16-19; emphasis added)

The "device profile link" is the color map. (Application, page 20, lines 3-6)

In relation to Claims 36-37, the rejection states:

'Claims 36 and 37:
Claims 36 and 37 claim the color map "includes" a look-up table or mathematical expression. Page 20 lines 3-11 of the specification!, states the color map "is, for example, a mathematical expression or a look-up table". A color map that "include" is different than a color map the "is". Thus, the specification does not convey these claim limitations.'

Claims 36-37 have been amended as suggested in the rejection.

Claims 62-63 and 65-66 were cancelled.

In relation to Claims 64 and 67 the rejection states:

'Claims 64 and 67:
Both claims 64 and 67 claim "the source and destination device profile interpreters are configured based on white-and black-point parameters while the specification at page 12 lines 8-15 describes "interpreters 202 and 208 are optionally configured to include white- and black-point parameters". The claim claims the interpreters are configured based upon the parameters while the specification describes the interpreters include the parameters. To configure based on parameters is different than configuring by including parameters.'

Claims 64 and 67 were amended as suggested in the rejection.

As to Claims 48, 49, 52, 53, 60, and 61, the rejection states:

"Claims 48, 49, 52, 53, 60, and 61 claim user preferences include illuminant functions (claims 48, 52, 60) or observer functions (claims 49, 53, 61). Page 12 line 20 to page 13 line 2, page 15 lines 15-22, and page 18 lines 5-9 and lines 12-14 describes illuminant and observer functions but does not describe the user preference include illuminant functions or observer functions. Additionally the parent claims claim the user preference is used to define relationships and the specification does not describe this as seen at the above cited sections of the specification."

Claims 48 and 49 were amended to state:

48. The system of claim 47, wherein said source and destination device profile interpreters are configured to include illuminant functions.

49. The system of claim 47, wherein said source and destination device profile interpreters are configured to include observer functions.

This language is supported by the application as filed, notably at page 12, line 20 to page 13, line 2, which states:

"In certain other application environments, the source and destination device profile interpreters 202 and 208 are further configurable to include, for example, illuminant and observer functions."

Claims 52-53 and 60-61 were amended in the same manner and are allowable on the same basis.

Claims 33-37, 47-53, and 60-67 stand rejected under 35 U.S.C. 112, second paragraph. In relation to Claims 33, 36, 37, 47-53, and 60-64, the rejection states:

'Claims 33, 36, 37, 47-53, and 60-64:

'Independent claims 33, 47, and 51 broadly claim to reduce color error between the converted coordinates from the source and destination device profile interpreters and does not claim how this is performed. These claims also broadly claim the color transformer adjusts coordinates in the destination device color space to reduce the color error which does not specify how the process in the first wherein clause reduces the color error. Thus, the process for reducing the color error is not definite. All prior art system can be broadly characterized as "reducing color error". It is also not clear if the "converted coordinates" at lines 11-12 are the 'same coordinates adjusted at line 16 or different coordinates. Thus, the metes and bounds of these claims are unclear.'

Claim 33 has been amended to state:

33. A system for color mapping , the system comprising:
a source device capable of producing an image from image data using a source device profile;
a destination device capable of reproducing said image from the image data using a destination device profile; and
a computer system operatively connecting said source device and destination device, said computer system including:
a source device profile interpreter that interprets the source device profile to convert coordinates in a source device color space to a device-independent color space;
a destination device profile interpreter that interprets the destination device profile to convert coordinates in a destination device color space to the device-independent color space; and
a color transformer that generates a color map defining a relationship between the source and destination device color spaces based on the converted coordinates and user preferences, said user preferences being

specified by a user to configure the color transformer, wherein the user preferences include color conversion preferences,

wherein the color transformer generates the color map in part by reducing color error between said converted coordinates from the source and destination device profile interpreters, the color transformer, in said reducing, at least adjusting coordinates in the destination device color space to generate adjusted coordinates, the color map being based in part on said adjusted coordinates in the destination device color space, and

wherein the source and destination device profile interpreters use forward transformation profiles to produce said converted coordinates.

The changed language of Claim 33 is supported by the application as filed, notably the previous language of Claim 33, the portions of the Application as earlier discussed in relation to Claim 33, and at page 16, line 10 to page 17, line 16. The reduction in color error is now only discussed in one clause and the term "said converted coordinates" is used.

Claims 36-37, 60-61, and 64 are allowable as depending from Claim 33. Claims 62-63 were cancelled.

Claims 47 and 51 were similarly amended and are supported and allowable on the same basis.

Claims 48-50 and 52-53 allowable as depending from Claims 47 and 51, respectively.

In relation to Claim 34, the rejection states:

'Independent claim 34 claims "the source device profile contains raw spectral data that characterizes a source device, and the destination device profile contains raw spectral data that characterizes a destination device". Page 16 lines 18-22 states "Additionally, the device profile 302 optionally stores the raw spectral data used to construct the device profile 302. The raw spectral data allows subsequent construction of more accurate device profiles 302, e.g., if ICC specifications change." Thus, the claim limitation "characterizes" is not clear from the definition given for the raw spectral data in the specification. Thus, the metes and bounds of this claim are unclear.

Claim 34, as discussed above, has been amended to state:

"wherein the source device profile characterizes a source device and contains raw spectral data used to construct said source device profile, and the destination device profile characterizes a destination device and contains raw spectral data used to construct said destination device profile."

The amended language of Claim 34, as discussed above, is supported by the Application as filed, notably at: page 5, lines 1-8; page 1, lines 11-22; page 16, lines 18-19; see also page 1, line 22 to page 4, line 3.

The application describes the characterizing of a device by its profile:

"According to another embodiment of the present invention, color mapping between source and destination color imaging systems is accomplished by using profiles that characterize the color imaging systems to generate device-independent color values for the source color imaging system and to convert to device-dependent values of the destination color imaging system by performing a color conversion using the profiles." (Application, page 5, lines 1-8; emphasis added)

"Color reproduction processes typically involve using color imaging systems to produce colors on various media. These color imaging systems may be used to duplicate a color image from one medium to another medium, e.g., from one printed copy to another or from a display screen to a printed copy. Color reproduction processes are used in various application environments, for example, color proofing applications.

"Some color reproduction processes use approaches known as color management systems (CMSs) to characterize various color imaging systems and to transform color data between the color imaging systems." (Application, page 1, lines 11-22; emphasis added; see also page 1, line 22 to page 4, line 3)

The application separately describes the storage of raw spectral data:

"Additionally, the device profile 302 optionally stores the raw spectral data used to construct the device profile 302." (Application, page 16, lines 18-19)

In relation to Claim 35, the rejection states:

'Independent claim 35 claims "color transformer that generates a color map ... based on the converted coordinates and user preferences specified by a user independently of the source and destination device profiles ... wherein the user preference include color conversion preferences, wherein the source device profile defines ... color space, and wherein the destination device profile define ... color space". It is not clear if the user preferences include the source device profile and the destination device profile since the specification only describes at page 15 lines 19-22 the user preferences as "The

color management system 200 receives user preferences from an input 218 to determine how to configure the color transformer 214." while the claim claims "user preferences specified by a user independently of the source and destination device profiles" are used in generating the color map. Thus, the metes and bounds of this claim are unclear.'

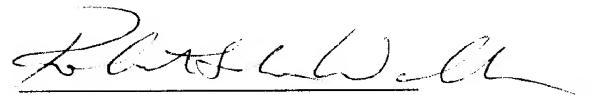
The rejection incorrectly interpreted the grammar of the wherein clauses of Claim 35 to read them as a single clause. Grammar of Claim 35 has been amended to provide semicolons and indentation and prevent any possibility of such an interpretation.

Examination of the claims is requested. MPEP 707.07(g) is noted.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 30,700

Robert Luke Walker/amb
Rochester, NY 14650
Telephone: (585) 588-2739
Facsimile: (585) 477-1148

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